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Claims

- 1. A method of treating, reducing, or preventing pain in a mammal, said method comprising administering to said mammal a nucleic acid encoding a constitutively active mu opioid receptor in an amount sufficient to treat, reduce, or prevent pain.
- 2. The method of claim 1, wherein said mu opioid receptor has an single point mutation in transmembrane domain 3.
- 3. The method of claim 2, wherein said single point mutation is an Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1 or the human equivalent.
 - 4. The method of claim 1, wherein said pain is back pain.
- 5. The method of claim 1, wherein the expression of said constitutively active mu opioid receptor is under the control of an inducible promoter.
 - 6. The method of claim 1, wherein the expression of said constitutively active mu opioid receptor is under the control of a constitutive promoter.
 - 7. The method of claim 1, wherein the expression of said constitutively active mu

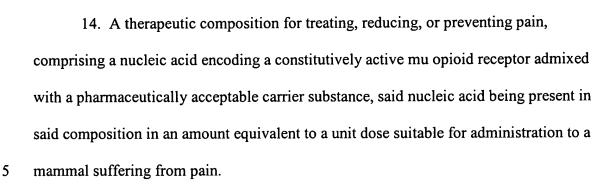
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opioid receptor is under the control of a tissue specific promoter.

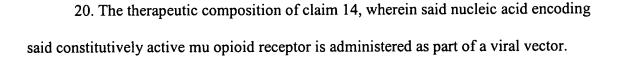
- 8. The method of claim 1, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a viral vector.
- 9. The method of claim 1, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a nonviral vector.
- 10. The method of claim 8 or 9, wherein said viral or nonviral vector includes cell specific ligands useful for targeting specific cell-types in a mammal.
- 11. The method of claim 8, wherein said viral vector is a retroviral or adenoviral vector.
- 15 12. The method of claim 8, wherein said viral vector is an adeno-associated viral vector.
 - 13. A method of treating, reducing, or preventing pain in a mammal, said method comprising administering to said mammal a nucleic acid encoding a hypersensitive mu opioid receptor in an amount sufficient to treat, reduce, or prevent pain.

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- 15. The therapeutic composition of claim 14, wherein said mu opioid receptor has a single point mutation in transmembrane domain 3.
- 16. The therapeutic composition of claim 15, wherein said single point mutation is a Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1.
- 17. The therapeutic composition of claim 14, wherein the expression of said constitutively active mu opioid receptor is under the control of an inducible promoter.
- 18. The therapeutic composition of claim 14, wherein the expression of said constitutively active mu opioid receptor is under the control of a constitutive promoter.
- 19. The therapeutic composition of claim 14, wherein the expression of said20 constitutively active mu opioid receptor is under the control of a tissue specific promoter.

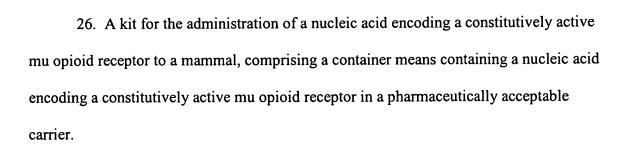
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- 21. The therapeutic composition of claim 20, wherein said viral vector is anadeno-associated viral vector.
 - 22. The therapeutic composition of claim 14, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a nonviral vector.
 - 23. The therapeutic composition of claim 20 or 22, wherein said viral or nonviral vector includes cell specific ligands useful for targeting specific cell-types in a mammal.
 - 24. The therapeutic composition of claim 20, wherein said viral vector is a retroviral vector or adenoviral vector.

25. A therapeutic composition for treating, reducing, or preventing pain, comprising a nucleic acid encoding a hypersensitive mu opioid receptor admixed with a pharmaceutically acceptable carrier substance, said nucleic acid being present in said composition in an amount equivalent to a unit dose suitable for administration to a mammal suffering from pain.

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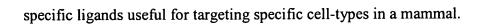


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- 27. The kit of claim 26, wherein said mu opioid receptor has a single point mutation in transmembrane domain 3.
- 28. The kit of claim 27, wherein said single point mutation is a Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1.
- 29. The kit of claim 26, wherein said nucleic acid is administered as part of a viral vector.
- 30. The kit of claim 29, wherein said nucleic acid is administered as part of an adeno-associated viral vector.
 - 31. The kit of claim 26, wherein said nucleic acid is administered as part of a nonviral vector.

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32. The kit of claim 29 or 31, wherein said viral or nonviral vector includes cell



33. The kit of claim 29, wherein said viral vector is a retroviral vector or adenoviral vector.

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